

## REMARKS

Reconsideration of the above-identified patent application is respectfully requested.

Claims 1-52 are pending in this application. Claims 1, 5-11, 13, 16-20, 23-27, 30-32, 34-44, 46-49, and 51-52 stand objected to based on informalities. Claims 1-18, 20-29, and 31-52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0072956 A1 to Willems et al. (Willems) in view of “CALS 2 Technical Goat” (1997) published by Swedish Defense Material Administration (SDMA) in further view of “New Models to Speed the Development of Electronics Components” (1999) published by Preamp Consortium (Joint Venture) (PCJV hereinafter). Claims 1, 5-8, 10, 11, 13, 16, 18-20, 23-27, 30-32, 34-42, 47, 49, 51, and 52 have been amended to correct informalities.

### §103(a) Rejections - Willems, SDMA, and PCJV

The Examiner rejected independent claims 1, 20, 31, and 50 as being unpatentable over Willems in view of SDMA and further in view of PCJV. In support of these rejections, the Examiner asserts that Willems discloses:

“A method of designing a (printed) circuit board - [FIG. 2; FIG. 12-17; FIG. 22; Paragraph 0202];  
receiving user-supplied circuit board design data from data entry device of a client machine - [FIG. 24; Fig. 18];  
retrieving circuit board manufacturing cost data regarding the (printed) circuit board design under study from a manufacturing cost database - [paragraph 0464];  
(User interface) application display on the client machine in a network - [Fig. 20-34];  
Displaying the manufacturing cost data on the (user interface) application display on the client machine [Fig. 28];” (Office Action dated 2/7/2006, page 5, lines 4-13)

Applicants strongly disagree. Contrary to the Examiner’s assertion, Willems fails to disclose all of the elements listed above. For example, Willems does not disclose “receiving user-supplied circuit board design data from data entry device of a client machine,” as asserted by

the Examiner. The Examiner directs Applicants to Figures 18 and Figure 24 to support this portion of the rejection. However, neither Figure 18 nor Figure 24 disclose “receiving user-supplied circuit board design data from data entry device of a client machine.” Figure 18 is simply “a block diagram of an embodiment of a computer system according to the present invention.” (Willems, paragraph 0056). Although Figure 18 does disclose a “data entry device 235” there is nothing in Figure 18 nor the accompanying description (see paragraphs 0418-0429) that discloses or indicates that the data entry device 235 may be used to enter, nor that the system 200 is configured to receive, user-supplied circuit board design data.

Turning to Figure 24, this figure also fails to disclose “receiving user-supplied circuit board design data from data entry device of a client machine.” Figure 24 illustrates a “method 1000 of the present invention for providing requested stage information to a user located at a second computer.” (Willems, Paragraph 0466). That is, Figure 24 illustrates a method of transmitting stage information to a computer for review by the user. In the method 1000, the user is simply requesting to view the stage information and **is not providing “user-supplied circuit board design data.”** In fact, other than the request to view the stage information, **the user does not supply any information in the method 1000 illustrated in Figure 24.**

Turning now to the remainder of Willems, Willems simply fails to disclose “receiving user-supplied circuit board design data.” This is because Willems is not directed to the design of circuit boards, but rather to an apparatus and method for optimizing total costs over the stages of a network such as a manufacturing network. (Willems, Abstract). As such, Willems is concerned with high-level manifesting costs and not with the details of circuit board design. For example, Table 4 of Paragraph 0366 illustrates several costs related to the manufacturing of the circuit board including the cost of Raw Silicate, Wafer Fabrication, and Wafer Packaging and Testing. However, these costs are total costs supplied by an external vendor. (See Paragraph 0363). **A user of the system disclosed in Willems is simply unable to supply design data to the system of Willems because such design data would be used by the external vendor to determine and**

**supply the total cost and not by the system and methods disclosed in Willems.** As such, for at least the reasons provided above, Willems can not be said to disclose “receiving user-supplied circuit board design data.” If the Examiner maintains this rejection, the Applicants respectfully request that the Examiner point with particularity to the section of Willems wherein such element is disclosed.

Even assuming that Willems discloses the elements asserted by the Examiner, an assertion the Applicants strongly disagree with, the Examiner concedes that “Willems et al. does not teach a method of transmitting a user interface application from a server machine to a client machine via a publicly-accessible-global network (e.g., the Internet).” (Office Action dated 2/7/2006, page 5, second paragraph). The Examiner relies on SDMA to overcome the deficiencies of Willems. In an attempt to establish a case of obviousness based on Willems and SDMA, the Examiner contends that:

“it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have applied the teachings of SDMA in transmitting a user interface application from a server machine to a client machine via a publicly-accessible-global network (e.g., Internet), to allow a client/user to retrieve the existing circuit board manufacturing cost data from a circuit board manufacturing cost database in a server machine **in order to reduce development time and cost in manufacturing a circuit board.**” (Office Action dated 2/7/2006, page 6, second paragraph, emphasis added)

However, the Examiner’s purported motivation for combining Willems and SDMA is completely devoid of any legally sufficient teaching, motivation, or suggestion to combine Willems and SDMA in the manner proposed by the Examiner. It is a fundamental tenet of patent law that a prima facie case of obviousness cannot be established in the absence of some teaching, motivation, or suggestion supporting the modification or combination of the references relied upon in making the rejection. The rule of law for a finding of obviousness under 35 U.S.C. § 103(a) was reiterated recently by the Court of Appeals for the Federal Circuit as follows, “[w]hen patentability

turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness.” In re Lee, 277 F.3d 1338 at 1343, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). The teaching or suggestion to make the claimed combination must be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. “To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

In an apparent attempt to establish a case of obviousness in the present case, the Examiner stated that it would have been obvious to combine the step of transmitting a user interface application from a server machine to a client machine of SDMA with the teaching of Willems “in order to reduce development time and cost in manufacturing a circuit board.” This is insufficient for a number of reasons. Firstly, for a teaching, motivation, or suggestion to be proper it must come from the prior art. In this regard, the Examiner has not identified where the prior art identifies the purported teaching, motivation, or suggestion that supports the need to combine the teaching of SDMA with the teaching of Willems. The mere fact that SDMA teaches transmitting a user interface application from a server machine to a client machine via a network is not, *ipso facto*, motivation to modify every manufacturing optimization system to include such a step, let alone the specific methods and systems for optimizing manufacturing costs of Willems. The legally required standard is not merely whether or not the step can be found in the prior art, but rather the standard is whether or not the prior art includes *both* the teaching (i.e., the proposed step) *and* a legally sufficient teaching, motivation, or suggestion for making the combination. In this

case, the Examiner has put forth a rejection that identifies a prior art step (i.e., the transmission of a user interface from a server machine to a client machine via a network), but has not identified any passage or recitation in Willems, SDMA, or any other prior art of record where the teaching, motivation, or suggestion exists to combine Willems and SDMA. Moreover, the unsupported, conclusory statement “in order to reduce development time and cost in manufacturing a circuit board” cannot function as suitable substitution of the legally required factual analysis. Indeed, even if armed with the general notion “in order to reduce development time and cost in manufacturing a circuit board.”, one skilled in the art would not be led to the specific combination of Willems and SDMA purported by the Examiner, and the mere statement of such a notion on the record cannot function as a legally sufficient substitute for the required factual analysis clarified and confirmed in *Lee*. It is the Examiner’s burden to point to such motivation, and the Examiner has not done so.

Because the Examiner has not offered a legally sufficient teaching, motivation, or suggestion to combine Willems with SDMA, it appears that the Examiner is using the Applicants’ application as a roadmap in developing his rejection. That is, the Examiner appears to be using hindsight reconstruction as a substitute for a factual basis for the rejection of the claims under 35 U.S.C. §103. Such use of hindsight reconstruction is not proper. “There must be a reason apparent at the time the invention was made to a person of ordinary skill in the art for applying the teaching at hand, or the use of the teaching as evidence of obviousness will entail prohibited hindsight.” *In re Nomiya, Kohisa, and Matsumura*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975). “The Patent Office has the initial duty of supplying a factually basis for a rejection under 35 U.S.C. § 103. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.” *In re Rice*, 481 F.2d 1316, 178 USPQ 478, 479 (CCPA 1973).

Yet further, the Examiner also concedes that “Willems et al. and SDMA does not explicitly disclose retrieving circuit board manufacturing capability data from a (manufacturing capability)

database.” The Examiner relies on a third reference, PCJV, to overcome the deficiencies of Willems and SDMA. In an attempt to establish a case of obviousness based on Willems, SDMA, and PCJV the Examiner contends that:

“it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have applied the teachings of PCJV in utilizing STEP application interface in use of STEP Tools for sharing design and manufacturing information, and retrieving circuit board manufacturing capability data from a manufacturing capability database **in order to reducing time-to-market and development costs in developing and manufacturing a (printed) circuit board.**” (Office Action dated 2/7/2006, pages 6-7, fourth paragraph, emphasis added)

Again, the Examiner’s purported motivation to combine Willems, SDMA, and PCJV, that is, **“in order to reducing time-to-market and development costs in developing and manufacturing a (printed) circuit board”**, is lacking legal sufficiency and is not a legally sufficient substitution for the factual analysis clarified and confirmed in *Lee*. The Examiner has failed to point to any section of Willems, SDMA, PCJV, or any other art of record wherein such motivation is provided and it appears that the Examiner is using improper hindsight reconstruction as a substitute for a factual basis for the rejection of the claims under 35 U.S.C. §103.

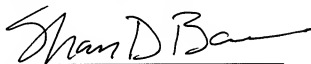
As such, for at least the reasons provided above, the proposed combination of Willems, SDMA, and PCJV fails to render independent claims 1, 20, 31, and 50 obvious. Claims 1, 5-8, 10, 11, 13, 16, 18-20, 23-27, 30-32, 34-42, 47, 49, 51, and 52 have been amended to address informalities. For at least the reasons discussed above, Applicants believe that independent claims 1, 20, 31, and 50 are in condition for allowance. Because claims 2-19, 21-30, 32-49, and 51-52 depend from claims 11, 20, 31, and 50, respectively, these claims are also believed to be in condition for allowance. Therefore, claims 1-52 are in condition for allowance, and such action is solicited.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and

shortages in other fees be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg LLP, Deposit Account No. 10-0435 with reference to file 6890-74183.

Respectfully submitted,

BARNES & THORNBURG LLP

A handwritten signature in black ink, appearing to read "Shawn D. Bauer", written over a horizontal line.

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